

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.	:	10/603,495	Confirmation No.	:	3535
Applicant	:	Creamer, et al.			
Filed	:	June 25, 2003			
TC/A.U.	:	2192			
Examiner	:	Neway, Samuel G.			
Docket No.	:	BOC9-2002-0070 (367)			

DECLARATION UNDER 37 C.F.R. § 1.131

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Thomas E. Creamer, a citizen of the United States, residing in Boca Raton, Florida, hereby declare and state as follows:

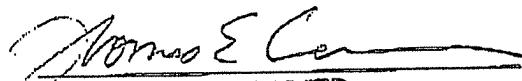
1. I was employed by International Business Machines Corporation (IBM) of Armonk, New York at the time the above-identified application was conceived. I make this declaration in support the above-identified application.
2. IBM has invested substantial time and effort into the research, development, and marketing of their products, and in an effort to protect its rights in all new inventions, IBM requests that all employees prepare and submit confidential Invention Disclosure Forms upon conception by the inventor(s).
3. As a named co-inventor for this invention, I and my co-inventors prepared and submitted the attached Invention Disclosure No. BOC8-2002-0056 (hereinafter "Invention Disclosure") pursuant to IBM guidelines.
4. The Invention Disclosure was originally submitted for consideration to an IBM Attorney/Patent Professional for preparation of a patent application on April 29, 2002, and was insubstantially modified on August 22, 2002. The content of the Invention Disclosure has not been subsequently modified. The Invention Disclosure represents a fully conceived and workable invention as written. I reviewed the claims of the above-mentioned patent application prior to submission of the application to assure the claimed invention was fully supported by the

Invention Disclosure in light of the Invention Disclosure and art known at the time of the disclosure.

5. I diligently worked with outside counsel to prepare and file the above-mentioned patent application.

6. I make this Declaration to establish that my co-inventors and I conceived of the present invention at least as early as April 29, 2002, and exercised due diligence from that date to the date of filing for the above-identified patent application.

7. I further declare that all statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both under Section 1001 of Title 18 of the United States Code, and that such willful, false statements may jeopardize the validity of the above-identified patent application or any patent issuing thereon.


THOMAS E. CREAMER

Date: 5-28/2007

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 10/603,495 Confirmation No. : 3535
Applicant : *Creamer, et al.*
Filed : June 25, 2003
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DECLARATION UNDER 37 C.F.R. § 1.131

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Peeyush Jaiswal, a citizen of the United States, residing in Boca Raton, Florida, hereby declare and state as follows:

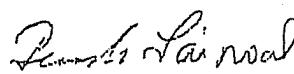
1. I was employed by International Business Machines Corporation (IBM) of Armonk, New York at the time the above-identified application was conceived. I make this declaration in support the above-identified application.
2. IBM has invested substantial time and effort into the research, development, and marketing of their products, and in an effort to protect its rights in all new inventions, IBM requests that all employees prepare and submit confidential Invention Disclosure Forms upon conception by the inventor(s).
3. As a named co-inventor for this invention, I and my co-inventors prepared and submitted the attached Invention Disclosure No. BOC8-2002-0056 (hereinafter "Invention Disclosure") pursuant to IBM guidelines.
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6. I make this Declaration to establish that my co-inventors and I conceived of the present invention at least as early as April 29, 2002, and exercised due diligence from that date to the date of filing for the above-identified patent application.

7. I further declare that all statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both under Section 1001 of Title 18 of the United States Code, and that such willful, false statements may jeopardize the validity of the above-identified patent application or any patent issuing thereon.



PEEYUSH JAISWAL
Date: 5/28/07

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 10/603,495 Confirmation No. : 3535
Applicant : *Creamer, et al.*
Filed : June 25, 2003
TC/A.U. : 2192
Examiner : Neway, Samuel G.
Docket No. : BOC9-2002-0070 (367)

DECLARATION UNDER 37 C.F.R. § 1.131

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Christopher J. Pavlovski, a citizen of Australia, hereby declare and state as follows:

1. I was employed by International Business Machines Corporation (IBM) of Armonk, New York at the time the above-identified application was conceived. I make this declaration in support the above-identified application.

2. IBM has invested substantial time and effort into the research, development, and marketing of their products, and in an effort to protect its rights in all new inventions, IBM requests that all employees prepare and submit confidential Invention Disclosure Forms upon conception by the inventor(s).

3. As a named co-inventor for this invention, I and my co-inventors prepared and submitted the attached Invention Disclosure No. BOC8-2002-0056 (hereinafter "Invention Disclosure") pursuant to IBM guidelines.

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7. I further declare that all statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both under Section 1001 of Title 18 of the United States Code, and that such willful, false statements may jeopardize the validity of the above-identified patent application or any patent issuing thereon.



CHRISTOPHER J. PAVLOVSKI

Date: Monday, 28th May 2007

EXHIBIT "A"

6169-367

Disclosure BOC8-2002-0056

Prepared for and/or by an IBM Attorney - IBM Confidential



Created By Tom Creamer On 04/29/2002 03:52:29 PM EDT

Last Modified By Elaine Venturelli On 08/22/2002 11:16:42 AM MDT

Required fields are marked with the asterisk (*) and must be filled in to complete the form.

*Title of disclosure (in English)

Voice-to-Text Reduction for Real Time IM/Chat/SMS

Summary

Status	Search Results Received
Final Deadline	
Final Deadline	
Reason	
*Processing Location	[REDACTED]
*Functional Area	select [REDACTED] (Business Solutions and Integration/IBM Software)
Attorney/Patent Professional	Ronald Franklin, Esq./Patent Attorney
IDT Team	select [REDACTED] [REDACTED] Austin/IBM [REDACTED] Austin/IBM
Submitted Date	04/29/2002 04:15:08 PM EDT
*Owning Division	select [REDACTED]
Incentive Program	
Lab	
*Technology Code	[REDACTED]

Inventors with a Blue Pages entry

Inventors: Tom Creamer [REDACTED] IBM, Christopher Pavlovski [REDACTED] IBM, Peeyush Jaiswal [REDACTED] IBM

[REDACTED] IBM

Inventor Name	Inventor Serial	Inventor Div/Dept	Manager Name
Creamer, Thomas E.			
> Pavlovski, Christopher J.			
Jaiswal, Peeyush			

> denotes primary contact

Inventors without a Blue Pages entry

[REDACTED]

[REDACTED]

[REDACTED] [REDACTED] [REDACTED]
[REDACTED] [REDACTED] [REDACTED]
[REDACTED] [REDACTED] [REDACTED]
[REDACTED] [REDACTED] [REDACTED]

[REDACTED] [REDACTED] [REDACTED]
[REDACTED] [REDACTED] [REDACTED]

***Main Idea**

To view the main idea for this disclosure, click on this doclink --->[\[REDACTED\]](#) (If you are prompted to enter a server name, please enter D01DB016)

***Critical Questions (Questions 1-9 must be answered in English)**

***Question 1**

[REDACTED] [REDACTED] [REDACTED]
[REDACTED] [REDACTED] [REDACTED]

***Question 2**

Is there any claimed or actual publication or disclosure regarding your invention to
the public prior to the date of this disclosure? [REDACTED] [REDACTED]

If yes, enter the name of each publication or disclosure and the date published below.
Publications/Patents [REDACTED] [REDACTED]

If no, enter the name of each publication or disclosure and the date published below.
Publications/Patents [REDACTED] [REDACTED]

If yes, enter the name of each publication or disclosure and the date published below.
Publications/Patents [REDACTED] [REDACTED]

If no, enter the name of each publication or disclosure and the date published below.
Publications/Patents [REDACTED] [REDACTED]

***Question 3**
Is the subject matter of the invention or disclosure being reported known to
anyone else internally or externally during the time period for sale, announcement
or proposal? [REDACTED] [REDACTED]

Is the subject matter of the invention or disclosure being reported known to
anyone else internally or externally during the time period for sale, announcement
or proposal? [REDACTED] [REDACTED]

Identify the product in known and indicate the date of planned date of sale, announcements, or
proposal and to whom the sale, announcement or proposal has been or will be made.
Product Name [REDACTED] [REDACTED]
Date [REDACTED] [REDACTED]
To whom [REDACTED] [REDACTED]

If more than one, use cut and paste and append as necessary in the field provided.

***Question 4**
Has the subject matter of your invention or product in regard to your
concerns been communicated to anyone else during the time period for sale, announcement
or proposal? Please enter the date as MM/DD/YY.

***Question 5**

Have you ever discussed your invention with others not employed at IBM?

[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]

***Question 6**

Was the invention (inventor) started or developed under a government contract? [REDACTED]

[REDACTED]

Yes
 No
 Not Sure

If yes, enter the contact number: [REDACTED]

***Question 7**

Was the invention made in the course of any alliance, joint development or other contract? [REDACTED]

[REDACTED] [REDACTED] [REDACTED]

Yes
 No
 Not Sure

If yes, enter the following:

[REDACTED] [REDACTED] [REDACTED]

***Question 8**

Have you or any of the other inventors submitted this same invention disclosure to any other company or organization?

[REDACTED] [REDACTED] [REDACTED]

If yes, please provide disclosure number(s): [REDACTED]

***Question 9**

Are you or any of the other inventors aware of any related inventions?

[REDACTED] [REDACTED] [REDACTED]

Yes
 No

If yes, please provide the docket or disclosure number of each and any identifying information below:

Question 10

What type of companies do you expect to compete with inventions of this type? (Check all that apply)

[REDACTED] [REDACTED] [REDACTED]

- End users of enterprise servers
- Manufacturers of server series
- Mainframe or workstations
- Manufacturers of PCs
- Non-computer manufacturers
- Developers of operating systems
- Developers of networking software
- Developers of application software
- Integrated solution providers
- Service providers

Please see below

Manufacturers of wireless handheld devices, such as PDAs, Mobile phones, etc.

Question 11

The invention relates to a product or service that sits outside the scope of your business, so please provide information (IBM Business Units) IBM location(s) and model(s) within IBM that you think would provide a good evaluation of your invention.

IBM Global/EMC/Voice Systems

Patent Value Tool (Optional): This may be used by the inventor and attorney to assist with the evaluation of the invention.

The Patent Value Tool can be used by the inventor(s) to determine the potential licensing value of your invention.

Market

*Question 1: What is the anticipated annual market size (in dollars) that will be captured by your invention?

Reason(s) for above Answer

Claims

*Question 1: How new is the technical solution?

Reason(s) for above Answer

*Question 2: How central is the invention to the product(s) which might be expected to contain the invention?

Reason(s) for above Answer

*Question 3: What is the scope of the claim?

Reason(s) for above Answer

Portfolios/Needs

Question 1: Where are the portfolios/needs of the area of your invention?

Reason(s) for above Answer

Exploration & Enforcement

*Question 1: How easily can the use of the invention by a competitor be detected?

[REDACTED] Person(s) for above Answer

*Question 2: [REDACTED] Person(s) for above Answer

Post Disclosure Text & Drawings

To add additional information related to this disclosure once it has been submitted, click the action button below and a new document will be opened for you to enter the new information. To view existing post disclosure information, double-click on the item in the list below (if there has been additional information entered), and the document will open for you to view.

Date entered Post disclosure information (comments and drawings)

11/12/2002 Comments by Tom Creamer,Comments by Peeyush Jaiswal

Form Revised 09/01/02)

1 Voice to Text Reduction for Real Time Chat

The nature of the proposed invention is a new technique for providing a real-time chat channel. The proposed invention is to deploy Speech to Text transcription and Text to Speech synthesis for real-time exchange of text messages (i.e. online chat). This solves several problems, including improvements in voice transmission efficiency (in the order of 90% improvement) and eliminates the use of keypad and keyboard devices for on-line chat. The ability to conduct on-line chat session over mobile phone is currently not practical. As such, the proposed invention enables two parties to conduct an on-line chat session on mobile phones by overcoming the limitations of these devices. This has many potential applications that extend beyond mobile phones, and is particularly suited to several environments that exhibit the following restrictions:

1. Low bandwidth environments.
2. Devices that have poor input capabilities.
3. Devices that have poor output capabilities.

As suggested, the most obvious application of the invention is the use of real-time chat over mobile phones. Present day mobile device have to deal with all three problems listed above (low bandwidth network, poor text input, and poor visual display). More specifically, the proposed invention can be used in several ways to overcome these limitations, these are:

1. Voice Input-Output with text compression, and
2. Voice Input transcription for real time chat.

In addition to the above two proposed uses, the invention can be used to function as a language translation function between two parties, hence additional applications are:

3. Voice Input-Output with Language translation.
4. Voice Input transcription with language translation.

The proposed invention goes well beyond previous inventions that propose the use of speech transcription technologies as a command interface only. Furthermore, the use of present day speech to text (transcription) and text to speech (using an appropriate synthesis algorithm) technologies may applied. This means that the proposed invention is technically feasible.

1.1 Voice to Text Compression

Both techniques extend the Voice to Text Compression benefit outlined, hence reducing the bandwidth requirements significantly. The voice compression benefit is now described. The compression benefit is achieved when compared to the conventional transmission of a voice signals that are compressed using techniques such as Codec voice encoding. The proposed invention has the sending party voice transmission converted to text, (this may be achieved using present day transcription techniques). The text (which may be further compressed) is then transmitted to the receiver, and at the receiving end the text stream is then converted to speech. To reconstruct the original voice of the sending party a previously recorded voice signature is applied during the text-to-speech synthesis conversion at the receiver. This process is able to achieve over a 90% compression improvement over the conventional Codec approaches. The following diagram, Figure 1, illustrates the notion.

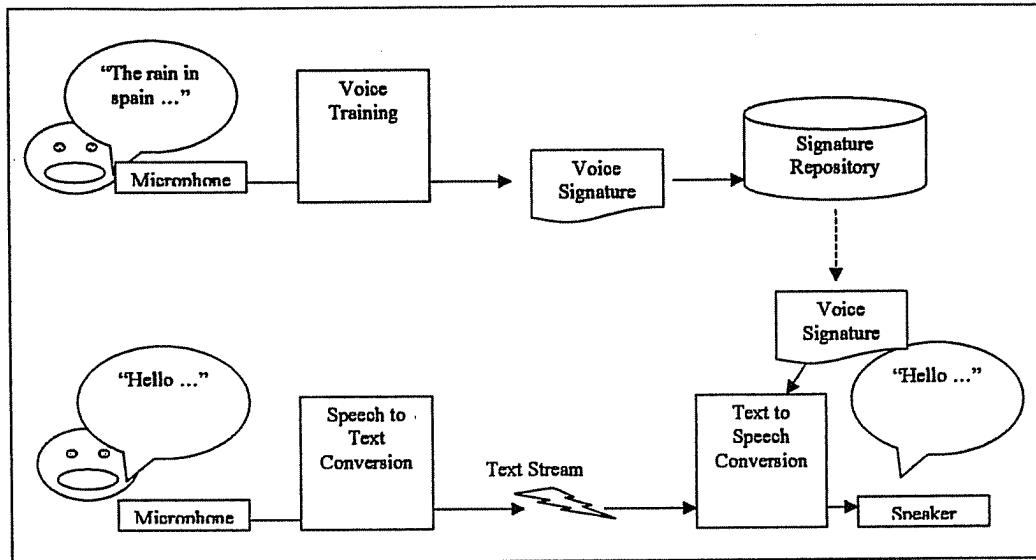


Figure 1. Voice Signature Capture and Voice to Text Compression

It has been suggested that the error rate of entering text is in the order of 10-20% [ref]. Using present day technologies (such as Via voice, and text to speech synthesis techniques) a similar error rate may be achieved, without the need for the user to enter text.

1.2 Voice Input-Output with text compression

The proposed invention may be fundamentally extended in two ways. The first approach is described in this section, where two parties are able to conduct a voice enhanced on-line chat session. The following diagram illustrates how the sending party's voice transmission is converted into a text stream (using transcription technologies). The text stream is then forwarded onto the receiving party. At the receiving end, the text stream is converted back to a voice stream using the previously recorded voice signature of the sending party (see Figure 1). As such the reconstructed signal is formed in the voice print of the sending party.

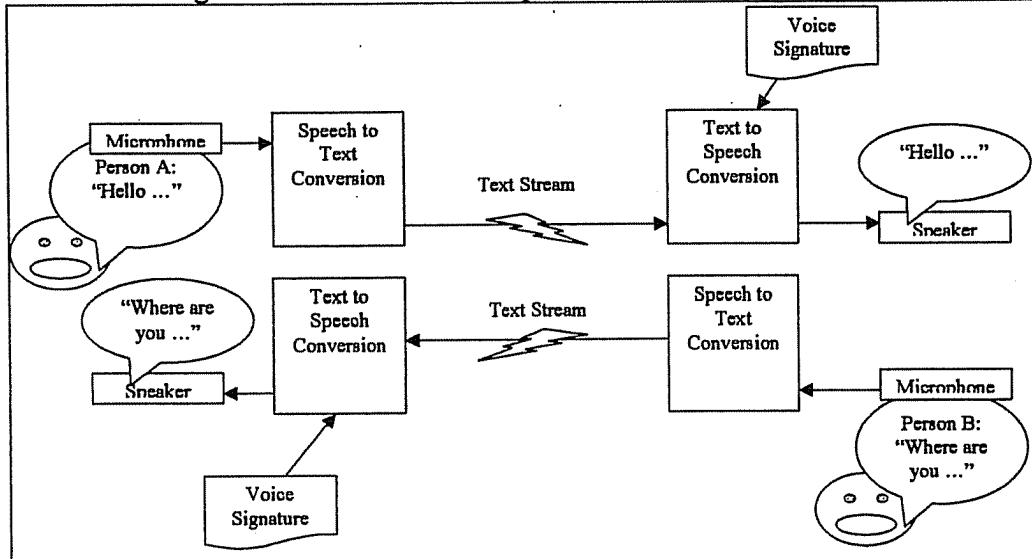


Figure 2. Voice to Text Compression

Several benefits are apparent with approach including the compression of the voice stream to a text stream, requiring a lower transmission bandwidth – hence lower cost for the delivery, overcoming device input capability, and overcoming device output capabilities. Shown at Figure 2 is the full duplex operation of the proposed invention.

1.3 Voice Input transcription for real time chat

An alternative extension of the proposed invention is the use of voice transcription for entering text into an online chat session, most notably over a mobile phone. The following diagram illustrates the operation, see Figure 3.

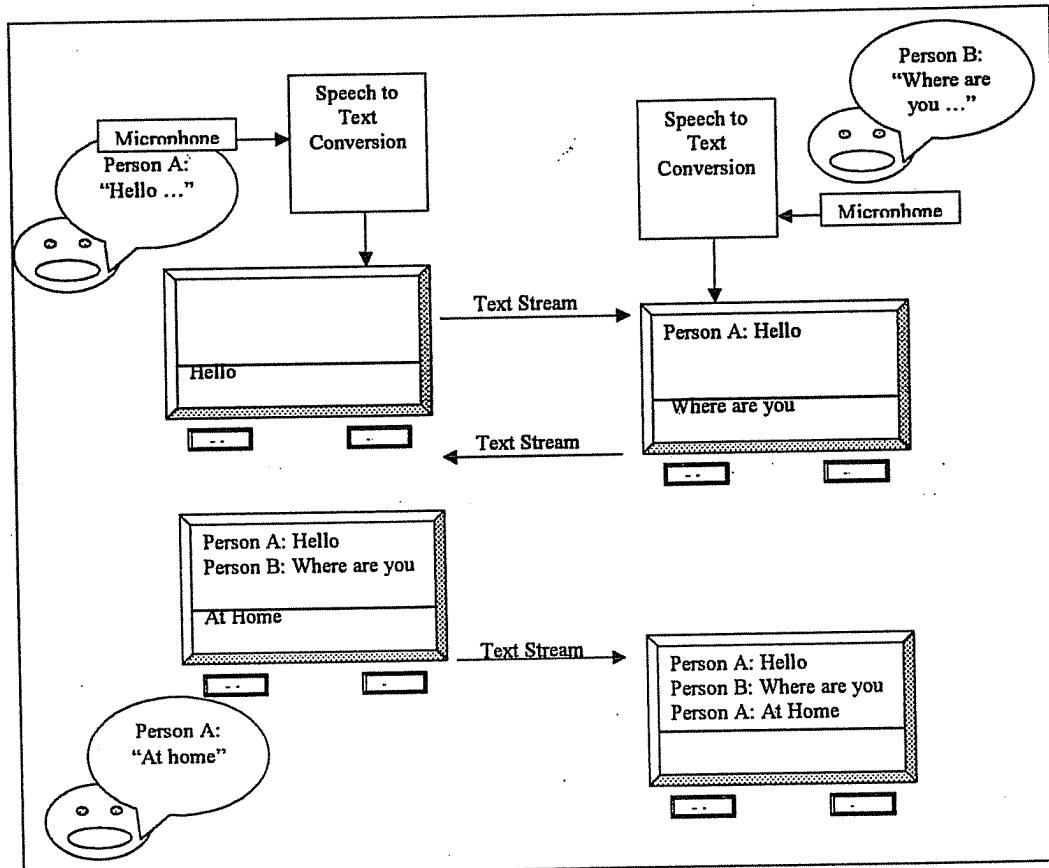


Figure 3. Voice to Text Conversion

Under this approach the senders voice is converted into a text stream, overcoming the device input restriction of small devices. The text stream is then forwarded onto the receiver as in the normal on-line chat scenario. In reply, the receiver would also have their voice transmission converted into the reply text.

1.4 Voice Input-Output with Language translation

The final proposed use of the invention is to extend the solution to provide real-time language translation. Real time language translation is presently an unsolved problem and is solved by the proposed invention. The basic idea is to extend the proposed use described in section 1.2, by adding a language translation engine to the text stream prior to the text to speech voice conversion. The resultant effect is for the sending party to be heard in the native language of the receiving person. This heard in the

sending parties voice, using the voice signature. The following diagram, Figure 4, illustrates the proposed use.

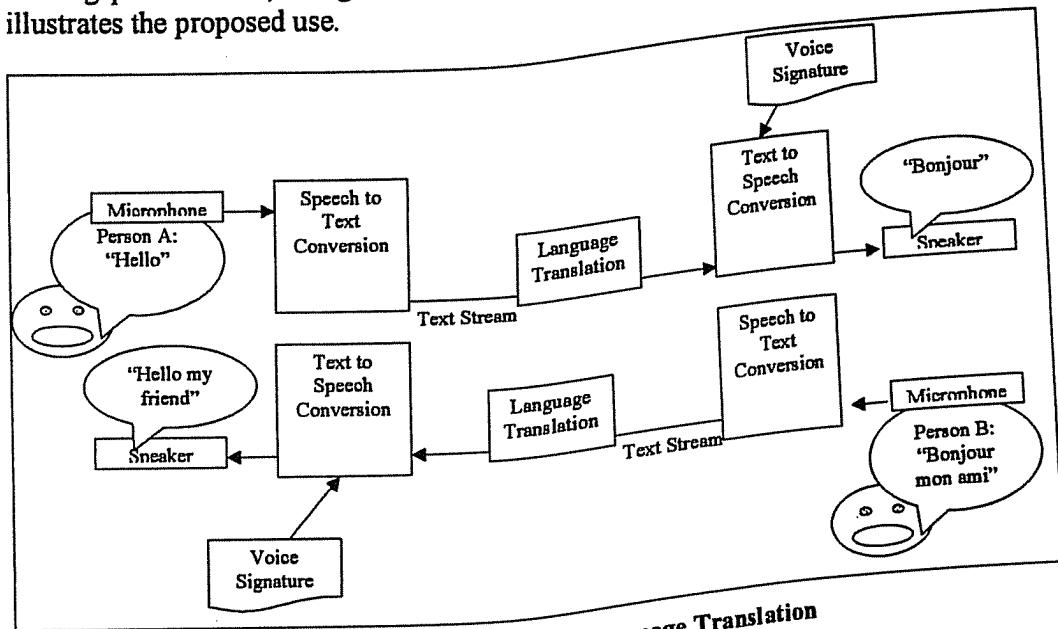


Figure 4. Voice to Text with Language Translation

1.5 Voice Transcription with Language translation

The final approach is to use voice transcription for real time chat with language translation, the following diagram illustrates the approach to be taken..

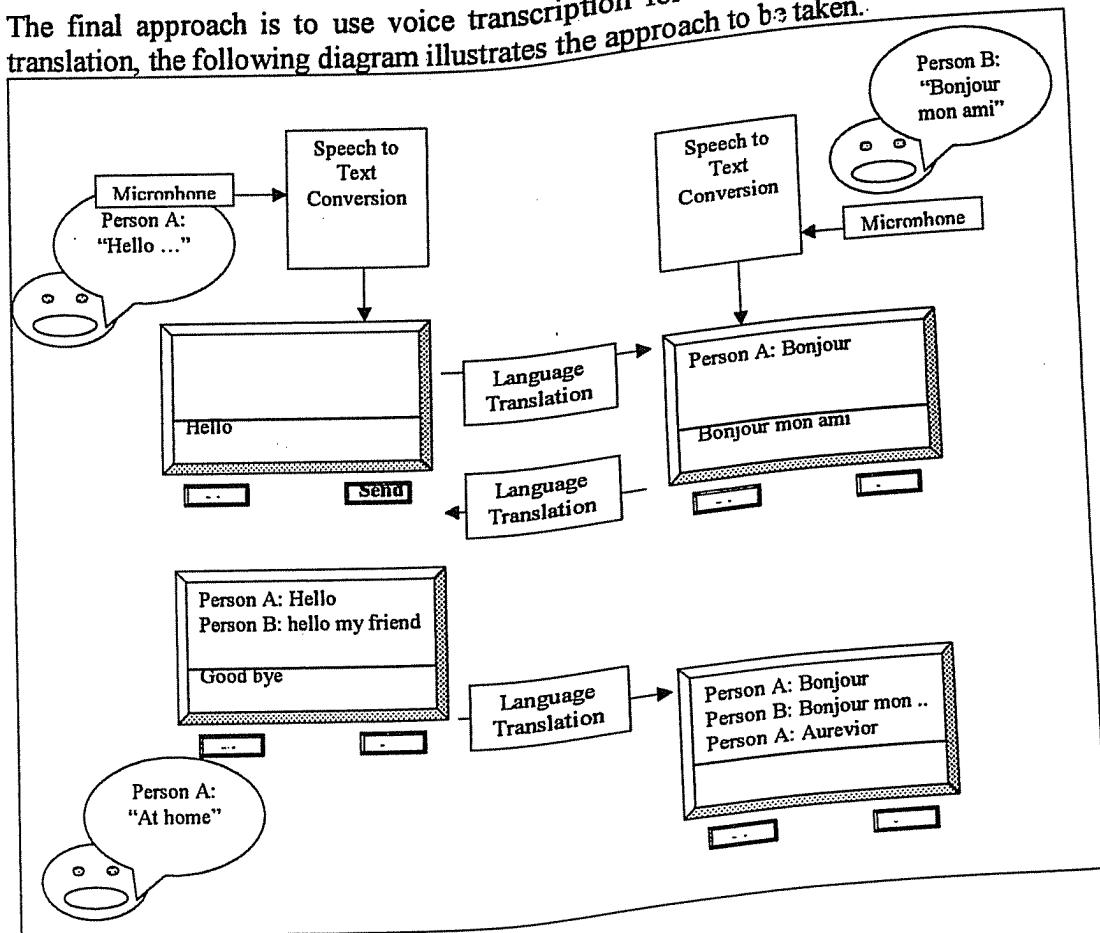
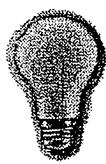


EXHIBIT "B"

OK TO
file H.L.

Post Disclosure Information for BOC8-2002-0056

Prepared for and/or by an IBM Attorney - IBM Confidential



Created By Tom Creamer On 11/12/2002 01:45:06 PM MST
Last Modified By Tom Creamer On 11/12/2002 02:03:12 PM MST

Required fields are marked with the asterisk (*) and must be filled in to complete the form .

The following people are responsible for these comments Tom Creamer/Fort Lauderdale/IBM, Peeyush Jaiswal/Fort Lauderdale/IBM

There are two additional claims that are unique to this disclosure:

1. The concept of the intermediary systems including a Voice Portal which allow the users to create "user preferences" (aka profiles). These user preferences allow for user defined grammars to be produced by each individual user. These user defined grammars are specific to a particular conversation. An example would be the change a chat phrase of "CU" into a voice translation of "see you". Another example would be to say "bye" which is translated to chat text as "later dude".
2. Using the Voice Portal, within a multiple chat session each user can control which party gets which part of the conversation. For example Mary wants to setup sessions between herself and her two friends, Jane and Linda. This session (conversation) is to be controlled such Jane never hears parts of the conversation with the key words "mail". This is because Mary has always had bad experiences with Jane when they go to the mall. If Linda asks about going mall, Mary wants that part of the conversation to become private.



8051 Congress Avenue
Boca Raton, FL 33487

EXHIBIT "C"

6169-367

December 26, 2002

Akerman, Senterfitt
222 Lakeview Avenue
4th Floor
West Palm Beach, FL 33401

REF: Invention Disclosure: BOC8-2002-0056
Title: Voice-to-Text Reduction for Real Time IM/Chat/SMS
IBM Docket: BOC9-2002-0070

Dear Kevin,

Please prepare and file the above referenced case with the U.S. Patent and Trademark Office. A copy of the invention disclosure, patentability search results and inventor's comments are enclosed for your use in preparation of the application in accordance with IBM's format.

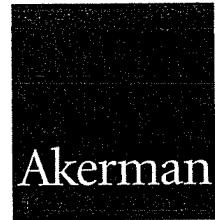
Thank you for your assistance in this matter.

Sincerely,

Enclosures

RECEIVED
DEC 31 2002

EXHIBIT "D"



Boca Raton
Fort Lauderdale
Jacksonville
Miami
Orlando
Tallahassee
Tampa
West Palm Beach

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West Palm Beach, Florida 33401-6147
Post Office Box 3188 mail
West Palm Beach, Florida 33402-3188
www.akerman.com
561 653 5000 tel 561 659 6313 fax

January 7, 2003

[REDACTED]
IBM Corporation
[REDACTED]
[REDACTED]
[REDACTED]

RE: New U.S. Patent Application
VOICE-TO-TEXT REDUCTION FOR REAL TIME IM/CHAT/SMS
IBM Docket No. BOC9-2002-0070; Our Reference No.: 6169-367

Dear [REDACTED]

Thank you for your letter dated December 26, 2002. In accordance with IBM standard protocol, a patent application will be prepared and filed in the above-referenced matter on or before June 24, 2003. Notwithstanding, we will strive to prepare the patent application in an expedient manner.

As always, thank you for allowing us to be of assistance to you.

Very truly yours,

AKERMAN SENTERFITT

A handwritten signature in black ink, appearing to read "Kevin T. Cuenot".

Kevin T. Cuenot

KTC/aa

cc: Gregory A. Nelson, Esquire